REMARKS

Claims 1, 6, 26-29, 32-36, and 39 are pending in the application. Claims 1, 6, 26-29, 32-36, and 39 stand rejected. Claims 1 and 6 were amended. Claims 1, 6, 26-29, 32-36, and 39 remain in the application.

Claims 1, 6, 26-27, 29, 33-34, and 36 stand rejected under 3 U.S.C. 103(a) as being unpatentable over Maekawara et al. (U 6,1 1,993) in view of Uebbing et al. (U.S. 4,982,203). The rejection stated:

> "Maekawara et al. discloses an image forming apparatus and a method for tailoring light output from fight emitting diodes (LEDs) in a printer that exposes a charged photosensitive member to light from the LEDs, the method comprising calculating a light-output correction for each of a plurality of subsets of the LEDs, each light-output correction being calculated based at least upon factors pertaining to (a) a light output from the LED subset associated with the light-output correction being calculated (the correction means carries out the light quantity correction by dividing plural light emitting elements into a plurality or groups to adjust the light quantity of each group) (cot. 4, lines 24-37). and (b) an average light output from the plurality of subsets of the LEDs (the photosensor is provided for each group of the light emitting elements and measures an average of the emitted light quantity for each group and the light quantity corrector corrects the quantity of light of each group so as to make the average of emitted light intensity of each group equal) (col. 4, lines 38-50) (col. 43, lines 43-48), wherein each of the plurality of subsets of the LEDs includes more than one LED (Fig. 7).
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> "Maekawara et al, teaches adjusting the light intensity of the plural groups of LEDs by providing a constant current or voltage source and adjusting the emission time, and fails to teach adjusting the light output from the LED subsets as a function of applied voltage or supplied current in accordance with their corresponding light-output ccrrections, each emission correction facilitating correction of the radiation emission from its associated recording element subset as a function of applied voltage (claims 1 and 6), the factors pertaining to the above-mentioned (a) and (b) including linear functions of light output versus applied voltage or supplied current (claims l and 33), non-linear functions of light output versus applied voltage or supplied current (claims 27 and 34).

"Uebbing et al. discloses an apparatus and a method for providing correction for amount degradation in the light output of the light source in an electrophotographic recording device, wherein to obtain the amount of compensation for degradation in light output, the average amount of light output for the printhead is measured at various temperatures and as a function of the supplied current, the supplied current being provided by varying the system reference voltage VR (col. 2 r line 51 to col. 3, line 2) (col. 6, lines 24-65). Uebbirxg et al. further teaches the amount of compensation for the light output of the light recording elements including a factor as a linear function of light output versus supplied current (i.e., factor x. I, where I is the supplied current and x the current non-linearity coefficient) (see Equation (4) at col. 6, line 34). Uebbing et al. further teachs that alternatively, the amount of compensation for the light output of the light recording elements including a factor as a non-linear function of light output versus supplied current (using partial derivatives as in Equation (6) at col. 7, line 5) (Col. 6, fine 6 to col. 7, line 15).

"It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Maekkawara et al, by providing the amount of compensation for the light output of the light recording elements as a function of the applied voltage or supplied current as taught by Liebbing et al. The motivation for doing so would have been to accurately correct the light output of the light recording elements through a range of the supplied current such that the uniform light output of the printhead is more suitable far precision gray scale printing as suggested by Uebbing et al."

Amended Claim 1 states:

1. A method for tailoring light output from light emitting diodes (LEDs) in a printer or electrographic copier that exposes a charged photosensitive member to light from the LEDs, the method comprising:

calculating a light-output correction for each of a plurality of subsets of the LEDs, each subset being controlled by a respective one of a plurality of different controllers, each light-output correction being calculated based at least upon factors pertaining to (a) a light output from the LED subset associated with the light-output correction being calculated, and (b) an average

light output from the plurality of subsets of the LEDs, wherein each light-output correction facilitates correction of the light output from its associated LED subset as a function of applied voltage or supplied current; and

adjusting the light output from the LED subsets as a function of applied voltage or supplied current in accordance with their corresponding light-output corrections,

wherein each of the plurality of subsets of the LEDs includes more than one LED.

The amendment of Claim 1 is supported by the application as filed, notably at page 7, line 7 to page 8, line 21.

Claim 1 requires calculating a light-output correction for each of a plurality of subsets of the LEDs, each subset being controlled by a respective one of a plurality of different controllers. Maekawara et al. teaches against this. (See FIG. 21) Maekawara et al. states:

"In the following, various kinds of inventions concerning the drive IC for driving the LED's will be explained. First, as a method for suppressing the inter-group dispersion of the aforesaid four groups of light emitting elements carrying out the multiple recording, following structure has been made in order that the influence of the dispersion of the drive IC's can be avoided as completely as possible.

"As is shown in FIG. 21, in the case where, for example, a plurality of the drive IC's which can drive 6 LED's each are provided to make the control of recording, the LED's belonging to the same group are distributed to as many different drive IC's as possible to be drived. In this way, the dispersion of the drive IC's is equally given to each group, hence the inter-group dispersion can be suppressed as much as possible." (Maekawara et al., col. 31, lines 14-28; emphasis added)

This is the opposite of the claimed invention. The combination of Maekawara et al. and Uebbing et al. does not change this teaching.

Claims 26-27 and 29 are allowable as depending from Claim 1.

Claim 6 is supported and allowable on the same basis as Claim 1.

Claims 33-34 and 36 are allowable as depending from Claim 6.

Claims 28 and 35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawara et al. in view of Uebbing et al., as applied to claims 1

and 6 above, and further in view of Kawabe et al, (US 5,812,176).

Claims 28 and 35 are allowable as depending from Claims 1 and 6, respectively.

Claims 32 and 39 stand rejected under 35 U.S.C.103(a) as being unpatentable over Maekawara et al. in view of Uebbing et al., as applied to claims 1 and 6 above, and further in view of Boflansee et al. (US 5,640.190). The rejection states:

> "Maekawara et al, in view of Uebbing et al. discloses all the basic limitations of the claimed invention except for the plural subsets including the plurality of LEDS includes a plurality of LEDS having substantially similar light-output-versus-applied-voltage or -supplied-current.
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> "Bollansee et al. discloses an LED printer whose print head includes a plurality of subsets of LEDs, wherein the average of light output of each subset is adjusted by providing a current proportional to the correction factor (col. 5, lines 17-23), and wherein the subsets of LEDs are grouped by classes having about the same correction factor (col. 11, lines 13-30).
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> "It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Maekawara et al. by incorporating subsets of light emitting elements having similar light-output-versus-applied-voltage or - supplied-current as taught by Bollansee et al. The motivation for doing so would have been to allow the print head to provide a more uniform light distribution."

Claims 32 and 39 state:

> 32. The method of claim 1, wherein each of the plurality of subsets of the LEDs includes a plurality of LEDs having substantially similar light-output-versus-applied-voltage or -supplied-current.
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> 39 (currently amended). The method of claim 6, wherein each of the plurality of subsets of the recording elements includes a plurality of recording elements having substantially similar radiation-output-versus-applied-voltage or -supplied-current.

Claims 32 and 39 are allowable as depending from Claims 1 and 6, respectively and as follows.

The rejection relies upon Bollensee et al. at col. 11, lines 13-30; however, contrary to the rejection Bollensse et al. calls for classifying individual

LEDs not subsets. Bollensee et al. states:

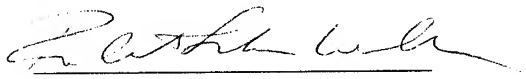
> "According to this embodiment, the LEDs are, based upon their correction factor Ki, classified in a plurality of classes, each of such classes comprising LEDs having about the same factor Kc, being the average of all factors Ki of the class. Every LED is now corrected using the correction factor Kc of the class to which the respective LED belongs." (Bollansee et al., col. 11, lines 15-21; emphasis added; also see Bollansee et al. col. 9, line 53 to col. 11, line 14)

In Bollansee et al., the individual LEDs are grouped into classes based upon the correction factors Ki for the individual LEDs. The LEDs are then classified into a plurality of classes, each class having a class correction factor Kc that is appliced to the LEDs of that class. The classes are not the subsets of Bollansee et al., col. 5, lines 17-23, nor are the subsets of that section grouped into classes. That section relates to a different correction. (Those two different corrections of Bollensee et al. were discussed at length in the Amendment filed on or about March 9, 2007, that discussion is hereby incorporated herein for the purpose of elucidating those differences.) Bollensee et al., thus, teaches against the claimed invention of Claim 32, which requires calculating a light-output correction for each of a plurality of subsets of the LEDs, each subset being controlled by a respective one of a plurality of different controllers, each of the plurality of subsets of the LEDs includes a plurality of LEDs having substantially similar light-output-versus-applied-voltage or -supplied-current. Claim 39 is allowable on the same basis.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



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